Exercises for Swimmers and Shoulder Problems

Swimming requires repetitive movements which over time may cause stress injuries to the joints specifically the shoulders.

Three out of four swim strokes utilize internal shoulder rotation which frequently results in rounding of the shoulders and subacromial impingement (often referred to also as painful arc syndrome, supraspinatus syndrome, swimmer's shoulder, or thrower's shoulder).

Specifically the front crawl, breast stroke and butterfly swimming strokes all involve internal rotation of the shoulder to either pull or recover for the next stroke. These repetitive strokes cause the upper body muscles to tighten and over-strengthen involving the internal shoulder rotator muscles (anterior deltoid, teres major). This presents the problem of an over-tightening of muscles in the chest and front of the shoulders and arms (pectoralis, biceps). Conversely, the posterior musculature of the upper back is overstretched (posterior deltoid, rhomboids).

Like many sports people, swimmers often do not know how to prevent injuries i.e. how to stretch and strengthen their muscles to balance the musculature to support the integrity of the joints. Most high volume swimmers would benefit from vertical water fitness training (in addition to their regular swimming regimen) because vertical water exercise is designed to balance the muscles for better posture and shoulder alignment. Additionally, there are many other cross training benefits.

Anyone with a shoulder problem, or forward rounding of their shoulders should spend more time stretching the tight muscles of the pectorals (chest), anterior deltoid (front of the shoulder) and biceps (front of the arm) and strengthening the posterior deltoids (rear shoulder), triceps (back of upper arm), rhomboids and middle trapezius (muscles between the shoulder blades) and Latissimus Dorsi (the big V shaped muscles in the back). Another joint action that needs to be incorporated for injury prevention is shoulder extension exercises which involve (reaching down and back through the water like a cross country ski movement (with the arms)).

Anyone with shoulder pain planning to begin an exercise regimen should be cautioned against using dense Foam Dumbbells, (or water weights) or Super Noodles for first time upper body strengthening exercises. Instead, for safety they should first learn to do each exercise correctly, through the correct ROM and in good body alignment without equipment. Once this is accomplished they can progress by slowly introducing more resistance in easy stages. For example: start with aquatic mitts (small resistive area) then progress to flex
paddles (a larger area with options for resistive progressions and lever lengths). Only when and if the client is completely out of pain should the buoyant resistance of water weights be introduced.

**Note:** Be sure to always submerge the shoulders under the water for protection when targeting all upper body muscles.

Here are some exercises that can be incorporated into a group exercise or specialized program for people with shoulder problems.

**Backwards Shoulder Rolls**
Technique is to move from the shoulder. Lift the shoulders up (elevate) then pull down and relax back (retract). Try to feel that the shoulders are lifting up towards the ears and then completely relaxing and releasing neck and shoulder tension as the scapulae (shoulder blades) are lowered and re-centered.

**Upright Row & Squeeze**
Reach forward with the hands slightly below chest height in a prayer position. Pull the elbows back and squeeze the shoulder blades together. Feel the middle back retracting like you are squeezing an orange between your shoulder blades. Keep the elbows low and the palms should be facing up when you pull. Focus on the arms first and then add lower body movement to the arms motion. A rock of the lower body may nicely coordinate the movement in water (reach forward weight on the front leg then fall back and squeeze the shoulder blades together. Be sure to utilize both legs to lead the movement or change legs and perform another set of muscular endurance exercises after the stretch below.

**Stretching the Pectorals, Anterior Deltoids and Biceps**
Allow one arm to stretch out and down in the water. If the right arm is extended down on a diagonal then turn the body to the left, allowing the body to drag the arm gently or follow the body.

Exercise design should focus on stretching the tight muscles at least twice as many times to stretching the already lax muscles. Strengthen the weak upper back muscles with at least twice as many repetitions as those used for the front of the chest.

i.e. stretch front of shoulders and strengthen back of shoulders

The only exception to this rule of thumb would be for someone who has dislocated their shoulder. This person would require more anterior stability and strength and in this case they probably would be needing more rehabilitative programming so that they would be receiving treatment for their recovery.

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